

IN THE CLAIMS

1. (previously presented) A magnetic resonance imaging apparatus comprising:

an exciting and acquisition device configured to excite spins within a subject;

a plurality of parallel receiver systems configured to acquire, by applying a reduced field-of-view, imaging echoes generated by the excited spins along with navigator echoes;

a first correcting device configured to conduct phase correction on said imaging echoes based on at least one of said navigator echoes;

a first image producing device configured to produce an intermediate image based on said phase-corrected imaging echoes from said plurality of parallel receiver systems;

a separate generating device configured to generate a sensitivity matrix corresponding to and from said plurality of parallel receiver systems;

a second correcting device configured to phase-correct matrix data in said sensitivity matrix; and

a second image producing device configured to produce an output image with a full field-of-view based on said intermediate image and said phase-corrected sensitivity matrix.
2. (currently amended) The magnetic resonance imaging apparatus of claim 1, wherein a reduction factor corresponding to said reduced field-of-view satisfies $n \geq R > 1, n \geq R > 1$, wherein R is the reduction factor, and n is a number of said parallel receiver systems.
3. (previously presented) The magnetic resonance imaging apparatus of claim 1, wherein said exciting and acquisition device implements said reduced field-of-view by enlargement of sampling intervals represented in a k-space.

4. (previously presented) The magnetic resonance imaging apparatus of claim 3, wherein said exciting and acquisition device implements said enlargement of the sampling intervals by enlargement of a step difference of phase encoding.

5. (previously presented) The magnetic resonance imaging apparatus of claim 1, wherein said plurality of parallel receiver systems have respective receiving coils.

6. (original) The magnetic resonance imaging apparatus of claim 5, wherein said receiving coils are surface coils.

7. (previously presented) The magnetic resonance imaging apparatus of claim 1, wherein said exciting and acquisition device employs a multi-shot diffusion-weighted echo planar imaging technique in acquiring said imaging echoes.

8. (currently amended) The magnetic resonance imaging apparatus of claim 1, wherein said ~~acquiring~~exciting and acquisition device employs a technique other than a multi-shot diffusion-weighted echo planar imaging technique in acquiring said imaging echoes.

9. (previously presented) The magnetic resonance imaging apparatus of claim 1, wherein said generating device generates said sensitivity matrix based on a spatial distribution of reception sensitivity of said plurality of parallel receiver systems with respect to the full field-of-view.

10. (currently amended) The magnetic resonance imaging apparatus of claim 9, wherein said generating device generates said sensitivity matrix after fitting the spatial distribution of ~~a magnitude~~a magnitude of the reception sensitivity of each of said plurality of parallel receiver systems to a two-dimensional polynomial.

11. (previously presented) The magnetic resonance imaging apparatus of claim 10, wherein said generating device conducts said fitting by applying a method of least squares including applying a weight that depends upon the magnitude of the reception sensitivity.

12. (previously presented) The magnetic resonance imaging apparatus of claim 11, wherein the weight is a square of the magnitude of the reception sensitivity.

13. (original) The magnetic resonance imaging apparatus of claim 10, wherein said two-dimensional polynomial is a quadratic.

14. (currently amended) The magnetic resonance imaging apparatus of claim 1, wherein said second correcting device homogenizes ~~a phase~~ a phase.

15. (currently amended) The magnetic resonance imaging apparatus of claim 1, wherein said second correcting device sets ~~a phase~~ a phase to zero.

16. (currently amended) The magnetic resonance imaging apparatus of claim 1, wherein said second correcting device sets ~~a phase~~ a phase to a constant value other than zero.

17. (previously presented) The magnetic resonance imaging apparatus of claim 1, wherein said second image producing device employs an equation $V=(S^* S)^{-1} S^* A$ in producing said output image, wherein V represents pixel values of the output image with the full field-of-view, S represents the sensitivity matrix, S^* represents an adjoint matrix of S , and A represents pixel values of the intermediate image.